Claims

1. A method of treating, reducing, or preventing pain in a mammal, said method comprising administering to said mammal a nucleic acid encoding a constitutively active mu opioid receptor in an amount sufficient to treat, reduce, or prevent pain.

2. The method of claim 1, wherein said mu opioid receptor has an single point mutation in transmembrane domain 3.

3. The method of claim 2, wherein said single point mutation is an Asn to Ala point mutation at amino acid 150 of SEQ ID NO: 1 or the human equivalent.

4. The method of claim 1, wherein said pain is back pain.

5. The method of claim 1, wherein the expression of said constitutively active mu opioid receptor is under the control of an inducible promoter.

6. The method of claim 1, wherein the expression of said constitutively active mu opioid receptor is under the control of a constitutive promoter.

7. The method of claim 1, wherein the expression of said constitutively active mu

opioid receptor is under the control of a tissue specific promoter.

8. The method of claim 1, wherein said nucleic acid encoding said constitutively active mu opioid receptor is administered as part of a viral vector.

9. The method of claim 1, wherein said nucleic acid encoding said constitutively active mu opioid receptor is administered as part of a nonviral vector.

10. The method of claim 8 or 9, wherein said viral or nonviral vector includes cell specific ligands useful for targeting specific cell-types in a mammal.

11. The method of claim 8, wherein said viral vector is a retroviral or adenoviral vector.

12. The method of claim 8, wherein said viral vector is an adeno-associated viral vector.

13. A method of treating, reducing, or preventing pain in a mammal, said method comprising administering to said mammal a nucleic acid encoding a hypersensitive mu opioid receptor in an amount sufficient to treat, reduce, or prevent pain.

14. A therapeutic composition for treating, reducing, or preventing pain, comprising a nucleic acid encoding a constitutively active mu opioid receptor admixed with a pharmaceutically acceptable carrier substance, said nucleic acid being present in said composition in an amount equivalent to a unit dose suitable for administration to a mammal suffering from pain.

15. The therapeutic composition of claim 14, wherein said mu opioid receptor has a single point mutation in transmembrane domain 3.

16. The therapeutic composition of claim 15, wherein said single point mutation is a Asn to Ala point mutation at amino acid 150 of SEQ ID NO: 1.

17. The therapeutic composition of claim 14, wherein the expression of said constitutively active mu opioid receptor is under the control of an inducible promoter.

18. The therapeutic composition of claim 14, wherein the expression of said constitutively active mu opioid receptor is under the control of a constitutive promoter.

19. The therapeutic composition of claim 14, wherein the expression of said constitutively active mu opioid receptor is under the control of a tissue specific promoter.

20. The therapeutic composition of claim 14, wherein said nucleic acid encoding said constitutively active mu opioid receptor is administered as part of a viral vector.

21. The therapeutic composition of claim 20, wherein said viral vector is an adeno-associated viral vector.

22. The therapeutic composition of claim 14, wherein said nucleic acid encoding said constitutively active mu opioid receptor is administered as part of a nonviral vector.

23. The therapeutic composition of claim 20 or 22, wherein said viral or nonviral vector includes cell specific ligands useful for targeting specific cell-types in a mammal.

24. The therapeutic composition of claim 20, wherein said viral vector is a retroviral vector or adenoviral vector.

25. A therapeutic composition for treating, reducing, or preventing pain, comprising a nucleic acid encoding a hypersensitive mu opioid receptor admixed with a pharmaceutically acceptable carrier substance, said nucleic acid being present in said composition in an amount equivalent to a unit dose suitable for administration to a mammal suffering from pain.

26. A kit for the administration of a nucleic acid encoding a constitutively active mu opioid receptor to a mammal, comprising a container means containing a nucleic acid encoding a constitutively active mu opioid receptor in a pharmaceutically acceptable carrier.

27. The kit of claim 26, wherein said mu opioid receptor has a single point mutation in transmembrane domain 3.

28. The kit of claim 27, wherein said single point mutation is a Asn to Ala point mutation at amino acid 150 of SEQ ID NO: 1.

29. The kit of claim 26, wherein said nucleic acid is administered as part of a viral vector.

30. The kit of claim 29, wherein said nucleic acid is administered as part of an adeno-associated viral vector.

31. The kit of claim 26, wherein said nucleic acid is administered as part of a nonviral vector.

32. The kit of claim 29 or 31, wherein said viral or nonviral vector includes cell

specific ligands useful for targeting specific cell-types in a mammal.

33. The kit of claim 29, wherein said viral vector is a retroviral vector or adenoviral vector.